

Remarks

Reconsideration and allowance of the present patent application based on the foregoing amendments and following remarks are respectfully requested.

In the pending Office Action, the Examiner rejected claims 1-3 and 6-7, under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement; rejected claims 1-3 and 6-7, under 35 U.S.C. §112, second paragraph, as allegedly containing indefinite terms; rejected claim 4, under 35 U.S.C. §102(b), as allegedly being anticipated by Malamud '890; and rejected claim 5, under 35 U.S.C. §103(a), as allegedly being unpatentable over Malamud '890 in view of Niwa '320.

The Examiner also objected to the Drawings and claims 1-3 and 6-7 for certain informalities.

By this Amendment, claims 1, 2 and 4 have been amended for form and clarity and claim 7 has been cancelled. No new matter has been introduced. As such, claims 1-6 are currently presented for examination, of which claim 1 is independent.

By virtue of the changes to the claims, including the deletion of the claim phrases "radius R is larger than a pixel of an accumulated image" and "radius R is larger than a pixel of a transmission image," the objections and §112, first and second paragraph rejections of claims 1-3 and 6 as well as the objection to the Drawings have been obviated. Accordingly, the immediate withdrawal of these objections and rejections is respectfully requested. It should be noted that claims 1-3 and 6 are, therefore, patentable, and a notice to this effect will be appreciated.

Applicants respectfully traverse the §102(b) and §103(a) rejections, for the following reasons:

I. Rejections Under §102(b) & §103(a).

As noted above, independent claim 4 is directed to stereoradioscopic image constructing equipment and references the X-ray tomography of claim 1. Thus, claim 4

incorporates the features of claim 1, such as, an X-ray generator being fixed, having a function of moving a focal position and radiating X-rays toward a subject, a planar X-ray image receiving element for receiving a plurality of transmission images of the subject formed by the X-rays radiated from the X-ray generator while the focal position is moved, the planar X-ray image receiving element being fixed, and an image processing section for creating a tomographic image by processing the plurality of transmission images of the subject received by the X-ray image receiving element. In the X-ray tomography, the subject is fixed between the X-ray generator and the planar X-ray image receiving element and the X-ray generator has a radiation plane which is parallel to the planar X-ray image receiving element, and the focal position of the X-ray generator is rotatable on the circumference on the radiation plane.

Moreover, claim 4, via reference to claim 1, also positively recites the feature that *the image processing section cuts out images from the individual transmission images corresponding to individual focal positions of the X-ray generator and accumulates the cut-out images to create an accumulated image, each of the cut-out images has a virtual center which is positioned on the circumference with a radius R from a center of each of the transmission images.*

The claim features noted above are amply supported and described by the embodiments disclosed throughout the written description. By way of illustration only, the disclosed embodiments provide a configuration in which the tomographic image of the subject can be obtained easily without disposing a movable mechanism for moving the X-ray generator, the X-ray image receiving element, or the subject. For example, a tomographic image of a soft subject can also be accurately and dependably obtained. Moreover, the tomographic images corresponding to the individual tomographic planes can be obtained by one rotation of the moving a focal position along the circumference, so that the photographing speed of the tomographic image can be enhanced, and the time required to obtain the tomographic image can be decreased, regardless of the size of the subject in comparison with the method to rotate and translate the X-ray generator or the subject.

Applicants point out that none of the references, whether taken alone or in combination, suggest each and every element of claims 1 and 4 including, for example, the claim features noted above. In particular, the primary reference, Malamud '890 discloses an imaging apparatus that comprises an X-ray generator having the function of moving a focal position and radiating X-rays toward a subject, an X-ray image receiving element for receiving a plurality of transmission images of the subject formed by the X-rays radiated from the X-ray generator, and an image processing section for creating a higher resolution transmission image by processing the plurality of lower resolution transmission images of the subject received by the X-ray image receiving element.

In addition, Malamud '890 specifically teaches that shifting circuit 58 shift each of the four sub-images by a half pixel in the appropriate lateral and vertical direction and the combining processor 60 loads the shifted images into the image memory 62. (See, Malamud '890: col. 4, lines 15-18).

In so doing, there is nothing in Malamud '890 that remotely suggests that the image processing section cuts out images from individual transmission images corresponding to individual focal positions of the X-ray generator and accumulates the cut-out image to create an accumulated image, the cut-out image has a virtual center which is positioned on a circumference with a radius R from a center of the transmission image, as required by claim 4 by virtue of referring to claim 1.

Applicants further submit that the remaining reference, Niwa '320, is incapable of curing the deficiencies of Malamud '890 and fails in its own right to suggest each and every element of the claim. Thus, for at least these reasons, Applicants submit claim 4 is neither anticipated nor rendered obvious by the asserted references and is, therefore, clearly patentable. And because claim 5 depends from claim 4, claim 5 is patentable at least by virtue of dependency as well as for its additional recitations.

Accordingly, the immediate withdrawal of the §102(b) and §103(a) rejections is respectfully requested.

Conclusion

Having addressed each of the foregoing rejections, it is respectfully submitted that a full and complete response has been made to the outstanding Office Action and, as such, the application is in condition for allowance. Notice to that effect is respectfully requested.

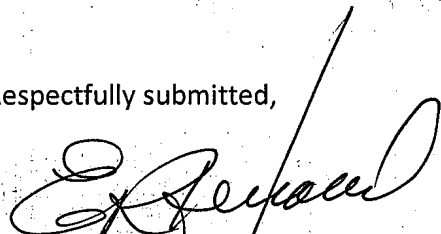
If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

Please charge any fees associated with the submission of this paper to Deposit Account Number 033975. The Commissioner for Patents is also authorized to credit any over payments to the above-referenced Deposit Account.

Date: November 20, 2009

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